TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. M110734P1-99

I. INTRODUCTION

This permit is for the operation the Morenci mine (Morenci) which is located on U.S. Highway 191 in Morenci, Greenlee County, Arizona. Phelps Dodge Morenci, Inc. (PDMI) operates the open pit copper mine, ore processing and copper extraction facilities. PDMI holds an 85 percent undivided ownership interest in the Morenci operations; the rest of the 15 percent is owned by Sumitomo Metal Mining Co., Ltd. and Sumitomo Corporation.

A. Company Information

Facility Name: Morenci Branch
Mailing Address: 4521 U.S. Hwy 191, Morenci, Greenlee County, AZ 85540-9795
Facility Address: 4521 U.S. Hwy. 191, Morenci, Greenlee County, AZ 85540-9795

B. Attainment Classification (Source: 40 CFR §81.303)

Table 1 summarizes the attainment classification of Morenci.

Table 1: Attainment Classification

Pollutant	Designated Area	Status
PM-10	NA	Unclassified/Attainment
SO_2	Morenci: T3S; R28E, R29E; and R30E	Nonattainment
	Morenci: T4S; R28E, R29E; and R30E	Nonattainment
	Morenci: T5S; R28E, R29E; and R30E	Nonattainment
CO	NA	Unclassified/Attainment
O_3	NA	Unclassified/Attainment
NO_2	NA	Unclassified/Attainment

II. PROCESS DESCRIPTION

Refer Title V application.

III. EMISSIONS

PDMI is a major source having air emissions of PM-10, Nox , and CO in excess of 100 tpy. Please refer Title V application for detailed calculations.

IV. COMPLIANCE HISTORY

A. Testing

The results of the some of the latest compliance tests have been summarized in Table 2. Results show that the units are in compliance with the applicable standards.

Table 2: Results of Performance Tests

Date of Test	Equipment Tested	Pollutants Tested	Results
3/18/97	Metcalf Ball Mill Belts Wet Scrubber No. 15	Particulate Matter	Passed
11/26/96	Metcalf Ball Mill Belts Wet Scrubber No. 14	Particulate Matter	Passed
6/5/96	Metcalf Fine Crushing Wet Scrubber No. 2	Particulate Matter	Passed
6/4/96	Metcalf Fine Crushing Wet Scrubber No. 4	Particulate Matter	Passed
5/7/96	Metcalf Fine Crushing Wet Scrubber No. 6	Particulate Matter	Passed
4/10/96	Metcalf Track Hopper Wet Scrubber No. 3A	Particulate Matter	Passed
4/9/96	Metcalf Fine Crushing Wet Scrubber No. 1	Particulate Matter	Passed
9/29/92	Portable Screening Plant	Visible Emission Testing	Passed
7/29/92	Surge Pile Baghouse	Particulate Matter and Visible Emission	Passed

B. Inspections

Inspections are being regularly conducted on this source to ensure compliance with the permit conditions. PDMI is currently in compliance with the permit conditions cited in

Permit Nos. 0325-85, 1204, and 1235 as modified by various minor permit revisions. It has not had a single outstanding compliance issue since it was first permitted in 1985. A notice of violation (NOV) was issued to PDMI on November 9, 1990 for opacity violations at the ore stacker. However, after making some operational changes that produced the desired result of lowering the opacity, the NOV was closed. Table 3 summarizes some of the recent inspections that have been conducted on the source and the results of the inspections.

Table 3: Inspections

Inspection Date	**Type of Inspection**	**Results**
6/11/97	Level 1(complaint)	No violations were noticed during this inspection.
3/6/97	Level 1(complaint)	No violations were documented during this inspection.
12/30/96	Level 3 (performance test)	Compliance test on Metcalf mill scrubber no. 14 for particulate matter. The tests indicated compliance of the source with the applicable regulations.
6/11/96	Level 3 (performance test)	Compliance test on Metcalf fine crushing and track hopper scrubber nos. 4 and 2 for particulate matter. The tests indicated compliance of the source with the applicable regulations.
5/7/96	Level 3 (performance test)	Compliance test on Metcalf crusher scrubber no. 6 for particulate matter. The tests indicated compliance of the source with the applicable regulations.
4/17/96	Level 3 (performance test)	Compliance test on scrubber nos. 1 and 3A for particulate matter. The tests indicated compliance of the source with the applicable regulations.
7/31/95	Level 1	No violations were noticed during this inspection.
7/24/1995	Level 2	Fugitive emissions from haul roads and blasting were observed. No violations were noticed during this inspection.

Inspection Date	Type of Inspection	Results
8/18/94	Level 2	Opacities of the units at the Morenci crushing mill were within 0-5%. Opacity from the IOS scrubber was within 0-5%. Opacity from the IOS was around 20%. Opacity from the lime plant baghouse was 0-5%. Opacity from the lime plant scrubber was within 5-10%. No violations were noticed during this inspection.
7/27/93	Level 2	Opacity from the lime plant baghouse was 15.8%. No violations were noticed during this inspection.
10/2/92	Level 3 (performance test)	Opacity from the crushers were within 2-3%. No violations were noticed during this inspection.
8/25/92	Level 2	No violations were documented during this inspection.
7/31/92	Level 3	Compliance test on the surge pile baghouse for particulate matter. Opacity of the plume from the baghouse was zero. The tests indicated compliance of source with the applicable regulations.

C. Compliance Certifications and Compliance Plan

After the issuance of this Part 70 permit, the Permittee will be required to submit compliance certifications every six months as indicated in Section VII of Attachment "A" of the permit. PDMI has clearly specified in Section 11 of the permit application that it operates all emission units in compliance with applicable requirements and will continue to comply with all applicable requirements under the existing operating permits. In addition, PDMI will comply with all applicable requirements that become effective during the permit term on a timely basis.

PDMI has clearly specified in Section 11 of the permit application that it will submit an annual compliance certification report which will identify the status of compliance in terms of continuous or intermittent compliance. The annual compliance certification will be signed by the responsible official ascertaining the truth, accuracy, and completeness of the information provided. The certification will include information pertaining to the methods used for determining the compliance status of the sources of emissions from PDMI operations. The information will be based on monitoring results compiled over the reporting period as prescribed in the permit.

V. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in its permit application. Table 4 summarizes the findings of the Department with respect to the regulations that apply to each emissions source. Installation Permit and other previous permit conditions are discussed under Section VI of this technical review document.

Table 4: MINE - POINT SOURCES

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
001-005	001	IPCC - 1	Wet Scrubber (1988/1988)	1988/1988	Since the year of manufacture is 1988 which is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).
001-006	002	IPCC - 2	Wet Scrubber (1988/1988)	1988/1988	Since the year of manufacture is 1988 which is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).
001-012	003	Surge pile	Baghouse (1988/1988)	1988/1988	Although the year of manufacture is 1988 which is after the trigger date (8/24/82) for Subpart LL, the baghouse is subject to the process weight rate equation and 40% opacity standard. This is because the preamble to Subpart LL specifically excludes all conveyor transfer points located in an open-pit mine and between the mine and the milling, storage or waste rock disposal areas. A copy of the preamble is attached to this document.

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
001-018	004	IOS	Wet Scrubber (1988/1988)	1988	Same as above.

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture/ Installation	Applicable Regulations
002-022	5	Morenci primary crusher	Wet Scrubber (1981/1981)	1940	Since the year of manufacture is 1940 which is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
002-023 and 002-024	006 and 007	Morenci coarse bin: CV 1A and 1B to bin	Wet Scrubbers 1 and 2 (1989/1989)	1940	Same as above.
002-025 to 002-028	008 to 011	Morenci Fine Crushing: North & South apron feeders to CVs 2A to 2D drop points.	Wet Scrubbers 2A through 2D (1990/1990)	1940	Same as above.
002-029	012	Morenci Fine Crushing: LINE A: Static grizzly; Symons std. cc; 4-single deck screens; 2-Symons shorthead cc; drop to conv 3.	Wet Scrubber 1 (1990/1990)	1940	Same as above.
002-030	013	Morenci Fine Crushing: LINE B: Static grizzly; Symons std. cc; 4-single deck screens; and 2-Symons shorthead cc.	Wet Scrubber 2 (1990/1990)	1940	Same as above.
002-031	014	Morenci Fine Crushing: LINE C: Static grizzly; Symons std. cc; 4-single deck screens; and 2-Symons	Wet Scrubber 3 (1990/1990)	1940	Same as above.

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture/ Installation	Applicable Regulations
002-032	015	Morenci Fine Crushing: LINE D: Static grizzly; Symons std. cc; 4-single deck; 2-Symons shorthead cc screens; to CV 3A	Wet Scrubber 4 (1990/1990)	1940	Same as above.
002-033	016	Morenci Fine Crushing: LINE B to CV 3; LINE C to 3B; CV 3B to 3; CV 3B to3A	Wet Scrubber 5 (1990/1990)	1940	Same as above.
002-034	017	Morenci Fine Crushing: Tail Pulley	Wet Scrubber 5B (1973/1973)	1940	Same as above.
002-035	018	Morenci Fine Crushing: CV3/4 and CV4/5 transfer points	Wet Scrubber 3-4-5 (1990/1990)	1940	Same as above.
002-036	019	Morenci Fine Crushing: CV3A/4A and CV4A/5A transfer points	Wet Scrubber 3A-4A-5A (1990/1990)	1940	Same as above.
002-037 to 002-042	020 to 025	Morenci Fine Ore Bin: CV 5 and 5A to Morenci fine ore bin	Wet Scrubbers 1 through 6 (1988/1988)	1940	Same as above.
002-043	027	Moly dryer exhaust fan stack	None	1941	This is subject to the process weight rate under A.A.C. R18-2-721 and the opacity standard under A.A.C. R18-2-702.B.
002-044	028	Concentrate conveyor tunnels ventilation fan stack	None	1941	This is subject to the process weight rate under A.A.C. R18-2-721 and the opacity standard under A.A.C. R18-2-702.B.

Operation Id No. - Process No.	Stack No.	Process Description	Control Equipment	Start-up Date	Applicable Regulations
003-077 003-078 003-079 003-080 003-081	76-80	Belt to Belt transfer points: R1B/R2, R2/R3, R3/R4, R4/R5, R5/R6	Bag collectors 1-4 (2000)	R1A, R1B, and R2-1988 R3, R4, R5, and R6-1988/2000	Subject to A.A.C. R18-2-721; The process weight rate equation and 40% opacity standard apply to this source.
003-082 and 003-083	030 and 031	Metcalf track hopper	Wet Scrubbers 3B and 3C (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-084	032	Metcalf fine crushing: FD 2B1, 2B2, 2A1, and 2A2 to CV 3C; FD 2B3 and 2B4 to CV 3B2; FD 2A3 and 2A4 to CV 3A2; FD 2B5 and 2B6 to CV 3B3; FD 2A5 and 2A6 to CV 3A3; CV 3C to 4C; CV 3B2 and 3B3 to CV 4B; CV 3A2 and 3A3 to CV 4A.	Wet Scrubber 3A. Water agglomeration dust suppression systems on Cvs 4A, 4B, and 4C drop points (1974/1974)	1995	Since the year of manufacture is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).
003-085	033	Metcalf fine crushing: Std. sec. crshr A: (through sec. screen A1-A2) to CV7, CV8, and CV9;	Wet Scrubber 6 Raring Water ADS on all screens and crushers. ADS is	1995	Since the year of manufacture is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
003-088	036	Metcalf fine crushing: Tert surge bin; tert crshr 5 and 6 FD hopper	Wet Scrubber 4 (1989/1989)	1995	\Since the year of manufacture is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).
003-089	037	Metcalf fine crushing: CV7/5, CV 8/11, and CV 11/5 transfer points	Wet Scrubber 5. Raring ADS on all drop points (1989/1989)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-090	038	Metcalf fine crushing: CV5/6 transfer point	Wet Scrubber 8 (1989/1989)	1970	Same as above
003-092	068	Metcalf fine crushing: Std sec crshr C: (through sec screens C1-C2) to CVs 7, 8, and 9; Scalper to CV 9.	Wet Scrubber 1. Raring ADS on screens and crushers. ADS is planned for drop points on CV7, CV8, and CV9 (12/1/95)	1995	Since the year of manufacture is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
003-094	040	Metcalf fine ore bin: CV 14 to fine ore bin	Wet Scrubber 9 (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-095 X = ball mill nos. B4, B5, and B6.	041	Metcalf ball mill belts: East & West CV 15-X to CV 16-X; and CV 16-X to CV 17-X.	Wet Scrubber 10 (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-096	071	Metcalf fine ore bin: CV 14 to fine ore bin	Wet Scrubber 15 (10/18/96)	1996	Since the year of manufacture is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM standard of 0.05 grams per dry standard cubic meter (g/dscm).
003-097 to 003-099 X = ball mill nos A1 to A6 and B1 to B3	042 to 044	Metcalf ball mill belts: East & West CV 15-X to CV 16-X; and CV 16-X to CV 17-X.	Wet Scrubbers 11A, 11B, and 12A (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-100	045	Metcalf fine ore bin: CV 14 to fine ore bin	Wet Scrubber 12B (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-101 X = ball mill nos. C1 to	070	Metcalf ball mill belts: East & West CV 15-X to CV 16-	Wet Scrubber 14 (6/18/96)	1996	Since the year of manufacture is 1996 which is after the trigger date (8/24/82) for Subpart LL, this is subject to the PM

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
003-102	046	Metcalf primary crshr	Wet Scrubber (1974/1974)	1970	Since the year of manufacture which is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-103	047	Metcalf IOS East	Wet Scrubber 1 (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.
003-104	048	Metcalf IOS West	Wet Scrubber 2 (1974/1974)	1970	Since the year of manufacture is prior to the trigger date (8/24/82) for Subpart LL, this is subject to A.A.C. R18-2-721. The process weight rate equation and 40% opacity standard apply to this source.

Table 4 (contd.): SOUTHWEST LIME PLANT

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
004-106	049	Truck to hopper; feeder belt/CV 26; CV 26/belt elevator; belt elevator/CV 27; and CV 27/storage bin transfer points	Baghouse	1974	The lime handling facility at Morenci is subject to the process weight rate equation under A.A.C R18-2-730. The opacity standard under A.A.C. R18-2-702.B also applies.

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
004-107	050	Feeder belt/CV 29; CV 29/ball mill feed hopper; feeder belt/CV 28D; CV 28D/CV 28C; and CV 28C/ball mill feed hopper transfer points	Wet Scrubber	1974	The lime handling facility at Morenci is subject to the process weight rate equation under A.A.C R18-2-730. The opacity standard under A.A.C. R18-2-702.B also applies.

Table 4 (contd.): SX/EW FACILITIES

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
009-123	062	20.9 MMBtu/hr steam unit No. 1	None	1995	Since the size of the boiler is greater than 20 MMBtu/hr and the date of construction is after the trigger date for Subpart Dc, this unit is subject to Subpart Dc. Since this unit burns only natural gas, there are only recordkeeping and reporting requirements under Subpart Dc.
009-124	063	1 MMBtu/hr hot water heater No. 1	None	1992	Since the size is less than 10 MMBtu/hr, this heater is subject to A.A.C. R18-2-724. Thus, this source is subject to the process weight rate equation, sulfur dioxide standard of 1.0 lb/MMBtu, and opacity standard of 15%.
009-125	064	1 MMBtu/hr hot water heater No. 2	None	1992	Same as above
009-126	065	1 MMBtu/hr hot water heater No. 3	None	1992	Same as above
009-127	066	1 MMBtu/hr hot water heater No. 4	None	1995	Same as above

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
009-128	067	1 MMBtu/hr hot water heater No. 5	None	1995	Same as above
009-129	074	20.9 MMBtu/hr steam unit No. 2	None	1998	Since the size of the boiler is greater than 20 MMBtu/hr and the date of construction is after the trigger date for Subpart Dc, this unit is subject to Subpart Dc. Since this unit burns only natural gas, there are only recordkeeping and reporting requirements under Subpart Dc.
009-130	075	20.9 MMBtu/hr steam unit No. 3	None	1998	Same as above
009- 222 009-223	86, 87	20.9 MMBtu/hr steam unit No. 4, 5	None	2000	Same as above
Operation Id 009, Process Numbers 117-122, 221	-	Solvent extraction/ electrowinning circuit	covers on mixer settler tanks; foams, blankets, surfactants, and brushes for the EW tankhouse.	Central SX- 1987 Metcalf SX- 1987 Modoc SX- 1992 New Southwest SX- 1998 Central EW tankhouse- 1987 Southside EW- 1995 Stargo tankhouse- 2000	A.A.C. R18-2-730- Standards of Performance for UnClassified Sources

Material Transfer Operations from the Metcalf Concentrator to the SXEW facility

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
Operation Id #003 Process Numbers 197-220	81, 82, 83, 84, and 85	Transfer points-14 to S10, S10 to S11, S11 to fine ore storage pile, fine ore storage pile to A1A, A1A to A2A, A1A to A2C, A2A to Agg Unit 1, A2C to Agg Unit 2, Agg Unit 1 to S12, Agg Unit 2 tO S12, S12 to 13A, 13A to Ramp Conveyor 14A, Ramp Conveyor 14A to Luffing Boom 15A, Luffing Boom 15A to Mobile Stacking Conveyor A, Mobile Stacking Conveyor A to Radial Stacker A, Radial Stacker A to Stockpile, S12 to SF3, SF3 to 13B, 13B to Ramp Conveyor 14B, 14B to Luffing Boom 15B, 15B to Mobile Stacking Conveyor B, Mobile Stacking Conveyor B to Radial Stacker B, Radial Stacker B to Stockpile.	Fabric Filter Dust Collectors 5-9, water sprays for stockpile	2000	Subject to A.A.C. R18-2-721; The process weight rate equation and 40% opacity standard apply to this source.

Table 4 (contd.): MORENCI POWER PLANT

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
012-177	058	247 MMBtu/hr Boiler No. 1	None	1941	Since the size of the boiler is less than 250 MMBtu/hr and since the date of construction is prior to the trigger date for Subpart D, this source is subject to A.A.C. R18-2-724. Thus, this source is subject to the process weight rate equation, sulfur dioxide standard of 1.0 lb/MMBtu, and opacity standard of 15%.
012-178	059	247 MMBtu/hr Boiler No. 2	None	1941	Same as above
012-179	060	247 MMBtu/hr Boiler No. 3	None	1943	Same as above
012-180	061	229 MMBtu/hr Boiler No. 4	None	1965	Same as above
012-181	058 and 059	48 MMBtu/hr Superheater No. 1	None	1941	Since the date of construction is prior to the trigger date for Subpart Dc, this source is subject to A.A.C. R18-2-724. Thus, this source is subject to the process weight rate equation, sulfur dioxide standard of 1.0 lb/MMBtu, and opacity standard of 15%.
012-182	060	48MMBtu/hr Superheater No. 2	None	1943	Same as above

Table 4 (contd.): METCALF POWER PLANT

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
005-108	051	240 MMBtu/hr Gas Turbine No. 1	None	1970	Since the date of construction is prior to the trigger date for Subpart GG, this source is subject to A.A.C. R18-2-719. Thus, the process weight rate equation, the opacity, and sulfur dioxide standards apply to this source
005-109	052	250 MMBtu/hr Boiler No. 1	None	1970	Since the date of construction is prior to the trigger date for Subpart D, this source is subject to A.A.C. R18-2-703. Thus, this source is subject to the process weight rate equation, sulfur dioxide standard of 1.0 lb/MMBtu, and opacity standard of 40%.
005-110	053	240 MMBtu/hr Gas Turbine No. 1	None	1970	Since the date of construction is prior to the trigger date for Subpart GG, this source is subject to A.A.C. R18-2-719. Thus, the process weight rate equation, the opacity, and sulfur dioxide standards apply to this source
005-111	054	250 MMBtu/hr Boiler No. 2	None	1970	Since the date of construction is prior to the trigger date for Subpart D, this source is subject to A.A.C. R18-2-703. Thus, this source is subject to the process weight rate equation, sulfur dioxide standard of 1.0 lb/MMBtu, and opacity standard of 40%.

Table 4 (contd.): DIESEL GENERATOR

Operation Id No. - Process No.	Stack No.	Process Description	Control Device	Year of Manufacture /Installation	Applicable Regulations
007-115	073	Caterpillar 4600 Kw Diesel Generator	None	1971	This source is subject to A.A.C. R18-2-719. Thus, the process weight rate equation, the opacity, and sulfur dioxide standards apply to this source

VI. PREVIOUS PERMITS AND CONDITIONS

A. Previous Permits

Table 5 lists some of the previous permits that have been issued to PDMI.

Table 5: Listing of Permits

Permit No.	Issue Date	Application Basis
0325-85	9/24/84	Operating Permit for mine and mills (issued by ADHS)
1204	12/16/87	Installation Permit for In-pit crushing and conveying (issued by ADEQ)
1235	12/17/91	Installation Permit for surge pile baghouse
0325R1-85	10/25/94	Minor permit revision to increase cathodic copper production
1000036	--	Title V for smelter operation - withdrawn
1000101	--	Title V for electric power generation - withdrawn; combined with current application.
1000110	5/12/95	Minor permit revision to add boiler and hot water heaters
1000206	3/6/96	Minor permit revision to increase copper concentrate production
1000111	6/17/96	Minor permit revision - Metcalf and Morenci ball mills expansion
1000202	--	Application for SVE - withdrawn
M1104190-98	--	Application withdrawn
1000587	12/1/97	Minor permit revision - Metcalf and Modoc SX plants expansion to include wash tank
1000643	12/22/97	Minor permit revision - new Southwest SX expansion
1000318	1/22/98	Minor permit revision - Metcalf ball mill expansion

Permit No.	Issue Date	Application Basis
1000778	5/30/98	Minor permit revision - addition of a new portable grizzly
1001285	8/24/2000	Significant Permit Revision- mine for leach conversion project for Metcalf Crushing Circuit

B. Previous Permit Conditions

Table 6 discusses the previous permits that have been issued to the source. These permits are attached at the end of this document.

Table 6: OPERATING PERMIT NO. 0325-85 (Brief Discussion: PDMI received its first air quality control operating permit no. 0325-85 to operate the equipment associated with the mining and milling of ores at Morenci from the Arizona Department of Health Services in 1984.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
I				T	Att. A, Condition II (A.II)	Condition is hereby streamlined as a part of this Title V permit renewal.
II				T	B	Same as above.
III				T	A.XII	Same as above
IV				T	A.IX	Same as above.
V			T		-	Not required to be included in Title V permit.
VI				T	A.III	Condition is hereby streamlined as a part of this Title V permit renewal.
VII				T	A.II	Same as above.
VIII				T	A.IV	Same as above.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
IX.A			T		-	This condition required PDMI to submit a detailed plan to control fugitive dust from their tailing ponds by November 8, 1984. The detailed plan was to include a section dealing with the maintenance of tailing ponds' fugitive dust control procedure. Since the Permittee has already complied with this condition, this condition is deleted as a part of this Title V permit renewal.
IX.B			T		-	This condition required PDMI to conduct emission tests before November 16, 1984, on the Scrubber No. 4 on the fine ore crusher at the Morenci concentrator and molybdenum concentrate dryer at the Morenci concentrator. Since the Permittee has already complied with this condition, this condition is deleted as a part of this Title V permit renewal.

Table 6 (contd.): INSTALLATION PERMIT NO. 1204 (Brief Discussion: This installation permit was issued to PDMI for the installation of their in-pit crushing and conveying (IPCC) system by the Arizona Department of Environmental Quality (ADEQ) in 1987.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
1				T	B.II	Condition is hereby streamlined for operation of the source as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
2				**T**	B.II	Condition for particulate matter emission rate is hereby streamlined as a part of this Title V permit renewal.
3				**T**	B.II	Condition is hereby streamlined as a part of this Title V permit renewal.
4.a				**T**	B.II	Same as above.
4.b				**T**	B.II	Same as above.
5		**T**			B.II	Condition is hereby carried over to the Title V permit as a part of this Title V permit renewal.
6			**T**		-	Since the Permittee has already complied with this condition, this condition is hereby deleted as a part of this Title V permit renewal.
7			**T**		-	Since the Permittee has already complied with this condition, this condition is hereby deleted as a part of this Title V permit renewal.
8	**T**				B.II	Condition is hereby revised to indicate the maximum capacity of the crushers as a part of this Title V permit renewal.
9				**T**	B.XI	Condition is hereby streamlined as a part of this Title V permit renewal.
10			**T**		-	Since the Permittee has already complied with this condition, this condition is hereby deleted as a part of this Title V permit renewal.
11			**T**		-	Since the Permittee has already complied with this condition, this condition is hereby deleted as a part of this Title V permit renewal.

Table 6 (contd.): INSTALLATION PERMIT NO. 1235 (Brief Discussion: PDMI obtained this installation permit for the installation of a baghouse for the surge pile in 1991.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.I			T		-	Condition is hereby deleted as a part of this Title V permit renewal since the baghouse has been installed already.
Att. B.II.A				T	B.II	Condition for particulate matter emission rate is hereby streamlined as a part of this Title V permit renewal.
Att. B.II.B				T	B.II	Condition for opacity standard is hereby streamlined as a part of this Title V permit renewal.
Att. B.II.C			T		-	Attachment "C" is a mere reflection of the potential to emit (based on 8760 hrs/yr operation) and the Condition is hereby deleted as a part of this Title V permit renewal.
Att. B.III			T		-	Sampling ports, platforms, and access were provided by the source. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B.IV.A			T		-	The Condition is hereby deleted as a part of this Title V permit renewal since the performance test was conducted.
Att. B. IV.B			T		-	The Condition is hereby deleted as a part of this Title V permit renewal since the performance test was conducted.

Table 6 (contd.): MINOR PERMIT REVISION NO. 0325R1-85 (Brief Discussion: PDMI obtained this minor permit revision in 1994. This minor permit revision is associated with the expansion of Metcalf and Modoc SX facilities by the addition of two mixer/settler tanks at each facility. PDMI also sought to expand the Southside electrowinning tankhouse by adding more electrowinning cells.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.I			T		-	Attachment "C" of this permit placed limits (PTE) on the emissions of VOCs from all the SX plants and the sulfuric acid mist from the tankhouses. The VOC emissions were based on batch operations whereas the source operates the plants at a steady state. Emissions from steady state operations are relatively low compared to batch operations. Attachment "C" is a mere reflection of the potential to emit (based on 8760 hrs/yr operation) and the Condition is hereby deleted as a part of this Title V permit renewal.
Att. B.II			T		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000110 (Brief Discussion: This minor permit revision was issued to PDMI in 1995 for the addition of a new 20.9 MMBtu/hr natural gas-fired boiler to the Southside tankhouse and the addition of two new 1 MMBtu/hr hot water heaters at the Central tankhouse.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.I				T	B.VIII	This condition states the applicable requirements for the boiler and the hot water heaters. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.II				T	B.VIII	Condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.III.A				T	B.VIII	Condition is hereby streamlined as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.III.B				T	B.VIII	Condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.IV				T	B.VIII	Condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000206 (Brief Discussion: This minor permit revision was issued to PDMI in 1996 to expand the Metcalf fine crushing plant to include one heavy duty standard crusher, two heavy duty shorthead crushers, and associated conveyance and ore storage equipment.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.I			T		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B.II				T	-	This condition states the applicable requirements for the boiler and the hot water heaters. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.III.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.III.B				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. IV.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. IV.B				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B. V.A				**T**	B.IV	Since the performance tests were done, this condition is hereby deleted as a part of this Title V permit renewal.
Att. B. V. B				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. V. C				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. V. D				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.A				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.B				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.C				**T**	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000111 (Brief Discussion: This minor permit revision was issued to PDMI in 1996 to add a ball mill and associated transfer point at both the Metcalf and Morenci concentrators.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B.I			T		-	This condition states the applicable requirements for the conveyor belt transfer points. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B.II				T	B.III and IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. III.A				T	B.III and IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. III.B				T	B.III and IV	This condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000587 (Brief Discussion: This minor permit revision was issued to PDMI in 1997 to expand the Modoc and Metcalf SX plants to include two wash stage tanks at each plant to remove the entrained manganese and iron.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B I			T		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B II				T	-	This condition states the applicable requirements for the new SX tanks. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B III.A				T	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B III.B				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000643 (Brief Discussion: This permit was issued to PDMI for the addition of four new mixer/settler tanks at the Southwest solution extraction (SX) plant and the addition of two small industrial steam boilers (20.9 MMBtu/hr each) at the Central electrowinning (EW) tankhouse. In addition, the Central EW tankhouse was converted from copper starter sheets to stainless steel starter sheets.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B I			**T**		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B II.A				**T**	-	This condition states the applicable requirements for the new tanks. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B II.A				**T**	B.VIII	This condition states the applicable requirements for the new boilers. This condition is hereby streamlined as a part of this Title V permit renewal.
Att B III.A				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B III.B				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B IV.A				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B IV.B				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B IV.C				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B V				**T**	B.VIII	This condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000318 (Brief Discussion: This permit was issued to PDMI in 1998 to modify the Metcalf ball mill to include three new ball mills and associated conveying equipment, a new section of the fine ore bin, and extend the fine ore tripper conveyor. Through this minor permit revision two existing ball mills and associated conveying equipment were also removed.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B I			**T**		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B II				**T**	-	This condition states the applicable requirements for the new affected facilities. This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B III.A				**T**	B.IV	This condition for particulate matter emission rate is hereby streamlined as a part of this Title V permit renewal.
Att. B III.B				**T**	B.IV	This condition for fugitive emission standard is hereby streamlined as a part of this Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att B IV.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att B IV.B				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B V.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B V.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B V.C				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B V.D				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.A				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.B				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.C				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B. VI.D				T	B.IV	This condition is hereby streamlined as a part of this Title V permit renewal.

Table 6 (contd.): MINOR PERMIT REVISION NO. 1000778 (Brief Discussion: This permit was issued to PDMI in 1998 for the addition of a portable grizzly.)

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B I			**T**		-	This condition states that the permit constitutes an installation permit for the purposes of applicable SIP. The Condition is hereby deleted as a part of this Title V permit renewal.
Att. B II				**T**	-	This condition states the applicable requirements for the new grizzly This condition is hereby streamlined as a part of this Title V permit renewal.
Att. B III.A				**T**	B.XIII	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.B				**T**	B.XI	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.C				**T**	B.XIII	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.D				**T**	B.XIII	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.E				**T**	B.XI	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.F				**T**	B.XI	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B III.G				**T**	B.XIII	This condition is hereby streamlined as a part of the Title V permit renewal.
Att. B IV.1				**T**	B.XIII	This condition is hereby streamlined as a part of the Title V permit renewal.

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
Att. B IV.2		T			B.XIII	This condition is hereby carried over to the Title V permit as part of this Title V permit renewal.
Att. B V.A		T			B.XIII	This condition is hereby carried over to the Title V permit as part of this Title V permit renewal.
Att. B V.B		T			B.XIII	This condition is hereby carried over to the Title V permit as part of this Title V permit renewal.

Significant Permit Revision #1001285 authorizing the "mine for leach" conversion project for the Metcalf crushing circuit

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
I.A		T			Att B	Air Pollution Control Requirements for the Metcalf circuit
I.B		T			Att B	Voluntary limits for Metcalf circuit
I.C		T			Att B	Monitoring reqs for Metcalf circuit
I.D		T			Att B	Performance testing reqs for Metcalf circuit
II.A		T			Att B	Opacity standard for material transfer operations
II.B		T			Att B	Air Pollution Control Requirements for the material transfer operations
II.C		T			Att B	Voluntary limits for material transfer operations
II.D		T			Att B	Monitoring reqs for material transfer operations

Condition No.	Determination				Location in Title V Permit	Comments
	Revise	Keep	Delete	Stream-line		
II.E		T			Att B	Performance testing reqs for material transfer operations
III.A.1		T			Att B	sx boilers- fuel limitation
III.A.2				T	Att B	sx boilers- notification reqs
III.A.3		T			Att B	sx boilers- recordkeeping req
III.A.4		T			Att B	permit shield
III.B.1		T			Att B	sxew circuit- emission standards
III.B.2		T			Att B	sxew circuit- air pollution controls
III.B.3		T			Att B	sxew circuit- monitoring reqs
III.B.4		T			Att B	sxew circuit- permit shield

VII. PERIODIC MONITORING

A. Mines, Morenci Concentrator, and Metcalf Concentrator

1. Equipment Subject to Non-NSPS PM and Opacity Standards

These units are subject to the 40% opacity standard under A.A.C. R18-2-702 and particulate matter under A.A.C. R18-2-721.B.2. The permittee is required to establish a baseline opacity level at the exit of each air pollution control equipment under normal representative operating conditions. The permittee is required to make a bi-weekly survey of the visible emissions from the emission units including fugitive emissions. The permittee is required to create a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the baseline opacity level, the permittee would note in the record that the visible emissions were below the baseline opacity, and it did not require a Method 9 to be performed.

If the permittee finds that on an instantaneous basis the visible emissions are in excess of the baseline opacity level but are below the opacity standard, then he is required to make a six-minute Method 9 observation. If this observation

indicates opacity in excess of the baseline opacity level but is below the opacity standard then the permittee is required to adjust or repair the controls or the equipment to bring the opacity below baseline level.

If the six-minute reading indicates that the opacity is above both the baseline level and the opacity standard then the permittee is required to adjust the process equipment or process control equipment to bring the opacity below the baseline level. In addition, the permittee shall report it as excess emissions.

If the permittee finds that the visible emissions are less than the baseline opacity, then the permittee is required to record the source of emission, date, time, and result of the test. The permittee is required to adopt a similar approach with fugitive dust emissions at the mine. However, rather than establishing baseline opacity level for fugitive emissions the permittee is required to conduct a visual survey of visible emissions against the 40% opacity standard.

ADEQ believes that the bi-weekly visual survey approach identified in the preceding paragraphs reasonably assure compliance with the opacity and particulate matter standards. The permit requires a representative stack test every year plus periodically monitoring stack opacity to fulfill the periodic monitoring requirements for particulate matter emissions. Although no data is available to directly correlate opacity to particulate matter emissions, doing so would at least indicate potential problems with the air pollution control device. If corrective actions are taken to rectify the problems associated with the pollution control device, then compliance can be inferred on the basis that the source operates its pollution control equipment in a manner consistent with good air pollution control practices. Opacity above the baseline level but less than 40% does not hold the source in violation of the particulate matter standard, but merely requires the source to identify and alleviate the problem by taking corrective actions to reduce the opacity to less than the baseline level. However, not taking corrective actions could potentially hold the source in violation of the permit terms.

Also, it shall be noted that all references to a Method 9 observation shall be construed as meaning a six-minute observation and not a 3-hour performance test.

2. Equipment Subject to NSPS PM and Opacity Standards

These units are subject to the stack opacity standard of 7% (unless controlled by a wet scrubbing emission control device) under 40 CFR 60.382(a)(2), the fugitive opacity standard of 10% under 40 CFR 60.382(b), and the particulate matter standard of 0.05 grams per dry standard cubic meter under 40 CFR 60.382(a)(1).

For the purposes of periodic monitoring of particulate matter emissions, the permittee is required to install, calibrate, maintain, and operate monitoring devices for continuous measurement of the change in pressure of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. For the purposes of periodic monitoring of opacity of fugitive emissions, the permittee is required to adopt the bi-weekly visual survey of visible emissions approach identified above against the applicable fugitive opacity standard of 10%.

B. Morenci Steam Power Plant

Boiler Nos. 1, 2, 3, and 4 and Superheater Nos. 1 and 2

1. Opacity:
   The units are subject to the opacity standard of # 15% under the A.A.C. R18-2-724.J. The permittee is limited to burn only natural gas in the units. Natural gas is a clean burning fuel and inspections indicate that there have been no opacity problems with these units. Hence, no monitoring is required when burning natural gas.

2. PM:
   The units are also subject to the particulate matter emissions standard in A.A.C. R18-2-724.C.1. The permittee is limited to burn only natural gas in these units. Natural gas is a clean burning fuel and results in negligible particulate matter emissions as demonstrated by engineering calculations and tabulated under the PTE column in Table 4. Hence, no monitoring is required when burning natural gas.

3. SO_2:
   There is no applicable standard and hence no monitoring is required.

4. Nox:
   There is no applicable standard and hence no monitoring is required. However, in accordance with ADEQ's policy of testing "major" units of emissions,

permittee shall test Boiler nos. 1 through 3 once when they have been operated individually for 2950 hours on a twelve month rolling total basis. Permittee shall test Boiler No. 4 once when it has be No such testing is required for the Superheaters. en operated for 3175 hours on a twelve month rolling total basis.

C. Metcalf Combined Cycle Power Plant

Steam Unit 1 and Gas Turbine No. 1 have the ability to be operated in combined cycle operation or simple cycle operation. Under combined cycle operation, exhaust from Gas Turbine No. 1 is used to provide intake air to the Steam Unit No. 1 windbox. This is done to increase the load output and efficiency of the system. When GT1 is ran independent of Steam Unit 1, the air flow control dampers direct exhaust to the atmosphere instead of the Steam Unit 1 intake airstream. If Steam Unit 1 is run without GT1, the flow control dampers from the turbine are closed and the unit solely relies on the unit's two forced draft fans to provide intake air to the windbox. Similarly, Steam Unit 2 and Gas Turbine No. 2 have the ability to be operated in combined cycle operation or simple cycle operation.

1. Steam Unit 1/Combined Cycle Operation of Steam Unit 1 and Gas Turbine No. 1 and Steam Unit 2/Combined Cycle Operation of Steam Unit 2 and Gas Turbine No. 2

a. Opacity:

The steam units are subject to the opacity standard of # 40% under the general visible emissions rule in A.A.C. R18-2-702.B. The units burn natural gas primarily and are capable of burning diesel.

Natural gas: Natural gas is a clean burning fuel and inspections indicate that there have been no opacity problems with this unit. Hence, no monitoring is required when burning natural gas.

Diesel: When diesel is burned, the Permittee is required to monitor and record opacity according to the following schedule:

1. When diesel is burned continuously for a time period > 48 hours but less than 168 hours, then one EPA Method 9 reading is required.

2. When diesel is burned continuously for a time period > 168 hours, then for each 168 period one EPA Method 9 reading is required.

The permittee is also required to monitor and record the number of hours diesel is burned continuously in the units. This approach is consistent with the periodic monitoring requirements that were established for the electric utilities.

b. PM:

The units are also subject to the particulate matter emissions standard in A.A.C. R18-2-703.C.1. This unit burns natural gas primarily and are capable of burning diesel.

Natural gas: Natural gas is a clean burning fuel and results in negligible particulate matter emissions as demonstrated by engineering calculations and tabulated under the PTE column in Table 4. Hence, no monitoring is required when burning natural gas.

Diesel: When diesel is burned in the units, the Permittee is required to monitor particulate matter emissions by monitoring the fuel burned in the unit. The permittee is also required to monitor the following information about the fuel found in the contractual agreement with the liquid fuel vendor:

1. Heating value; and
2. Ash content.

Ash content is not an accurate measure but is a good indicator of particulate matter emissions, and monitoring this would help the agency to "ballpark" the particulate matter emissions. No engineering estimation using ash content is prescribed in the permit since it could be interpreted to incorrectly correlate particulate matter emissions to ash content only. Permittee is required to keep on record a copy of the contractual agreement.

Table 4 compares the PTE, allowable emissions, test data, and actual emissions for these units.

c. SO_2:

The steam units are subject to the sulfur dioxide standard in A.A.C. R18-2-703.E.1. This standard applies only when the units burn diesel. There is no standard when the units burn natural gas.

Diesel: When diesel is burned, the Permittee is required to keep on record the fuel supplier certification including the following information:

1. The name of the oil supplier;
2. The sulfur content and the heating value of the fuel from which the shipment came from; and
3. The method used to determine the sulfur content of the oil.

Permittee is required to make engineering calculations for SO_2 emissions using the information from above according to the following equation for any change in (2) above:

SO_2 (lb/MMBtu) = 2.0 x [(Weight percent of sulfur/100) x Density (lb/gal)]/[(Heating value (Btu/gal)) x (1 MMBtu/1,000,000 Btu)]

Table 4 compares the PTE, allowable emissions, test data, and actual emissions for these units.

d. NOx:

The steam units were placed in commercial operation in 1970. The nitrogen oxides standard under A.A.C. R18-2-703.I does not apply to these units and no monitoring is required. However, in accordance with ADEQ's policy of testing "major" units of emissions, permittee shall test Steam Unit 1 once when it has been individually operated for 2950 hours during the permit term. Permittee shall test Steam Unit 2 once when it has been individually operated for 3175 hours during the term

of the permit.

2. Gas Turbine Nos. 1 and 2

a. Opacity:

The turbines are subject to the opacity standard of # 40% in A.A.C. R18-2-719.E. Gas turbine Nos. 1 and 2 burn natural gas primarily and are capable of burning diesel.

Natural gas: Natural gas is a clean burning fuel and usually does not pose a visible emissions problem. Hence, no monitoring is required when burning natural gas.

Diesel: However, when diesel is burned, the Permittee is required to monitor and record opacity according to the following schedule:

1. When diesel is burned continuously for a time period > 48 hours but less than 168 hours, then one EPA Method 9 reading is required.

2. When diesel is burned continuously for a time period > 168 hours, then for each 168 hour period one EPA Method 9 reading is required.

The permittee is also required to monitor and record the number of hours diesel is burned continuously in the units. This approach is consistent with the periodic monitoring requirements that were established for the electric utilities.

b. PM:

The units are also subject to the particulate matter emissions standard in A.A.C. R18-2-719.C.1.

Natural gas: Natural gas is a clean burning fuel and results in negligible particulate matter emissions as demonstrated by engineering calculations and tabulated under the

PTE column in Table 4. Hence, no monitoring is required.

Diesel: However, when diesel is burned in the units, the Permittee is required to monitor particulate matter emissions by monitoring the fuel burned in the units. The permittee is also required to monitor the following information about the fuel found in the contractual agreement with the liquid fuel vendor:

1. Heating value; and
2. Ash content.

Ash content is not an accurate measure but is a good indicator of particulate matter emissions, and monitoring this would help the agency to "ballpark" the particulate matter emissions. No engineering estimation using ash content is prescribed in the permit since it could be interpreted to incorrectly correlate particulate matter emissions to ash content only. Permittee is required to keep on record a copy of the contractual agreement. Table 4 compares the PTE, allowable emissions, test data, and actual emissions for this unit.

c. SO_2:

The gas turbines are subject to the sulfur dioxide standard in A.A.C. R18-2-719.F. This standard applies only when the units burn diesel. A.A.C. R18-2-719.J requires reporting of all periods when the sulfur content of the fuel exceeds 0.8 percent by weight and this has been included in the permit as an emission limitation.

Natural gas: "Pipeline-quality" natural gas has to conform to standards approved by the Federal Energy Regulatory Commission (FERC). One of the FERC standards limits the sulfur content in the gas to less than 5 grains/100 scf (which is equivalent to 0.017 weight percent of sulfur). Another standard specifies that the heating value must be greater than or equal to 967 Btu per cubic foot. PDMI runs the gas turbines with fuel

drawn from their pipeline, and therefore maintaining a copy of the FERC approved Tariff agreement on-site is an adequate means of complying with the monitoring requirements for the particulate, opacity and fuel use standards.

Diesel: When diesel is burned, the Permittee is required to keep on record fuel supplier certification including the following information:

1. The name of the oil supplier;
2. The sulfur content and the heating value of the fuel from which the shipment came from; and
3. The method used to determine the sulfur content of the oil.

Permittee is required to make engineering calculations for SO_2 emissions using the information from above according to the following equation for any change in the conditions above:

SO_2 (lb/MMBtu) = 2.0 x [(Weight percent of sulfur/100) x Density (lb/gal)]/[(Heating value (Btu/gal)) x (1 MMBtu/1,000,000 Btu)]

Table 4 compares the PTE, allowable emissions, test data, and actual emissions for this unit.

d. Nox and CO:

Although there is no applicable standard for nitrogen oxides and carbon monoxide, the permittee is required to monitor the dates and hours of operation of the engines for the purposes of testing. The source has been required to be tested once during the term of the permit according to the schedule given below, if necessary. The turbines have been determined to cross the major threshold (100 tpy) according to the following schedule:

1. Gas Turbine Nos. 1 and 2: When operated individually for 1825 hours on a twelve month rolling total basis.

The hours were derived assuming natural gas is burned in the units. The tests will be conducted when burning the primary fuel. The permit requires the permittee to report the dates and hours of operation of the turbines semi-annually, during the six months prior to the date of report. Table 4 compares the PTE, allowable emissions, test data, and actual emissions for this unit.

D. Southwest Lime Plant

Opacity and Particulate Matter Standard

The emission units are subject to the opacity standard of 40% under A.A.C. R18-2-702.B and the particulate matter under A.A.C. R18-2-722.B.2. For the purposes of periodic monitoring of particulate matter emissions, the permittee is required to install, maintain, calibrate, and operate monitoring devices to determine the daily process weight of the Southwest Lime Plant.

For the purposes of periodic monitoring of opacity of emissions and particulate matter emissions, the permittee is required to adopt the bi-weekly visual survey of visible emissions approach identified in the previous section of this technical remarks document.

In addition, the permittee is required to maintain and operate the air pollution control equipment in accordance with the manufacturer's specification. Permittee is also required to hold these specifications on file. Emissions related maintenance work performed on the air pollution control equipment and/or the process equipment need to be recorded.

E. SX/EW Operations

1. SX/EW Plant

The intent of A.A.C. R18-2-730.D as applicable to the SX/EW process is to limit emissions from the equipment and operations associated with the SX/EW process so as to not cause air pollution. PDMI uses covered fixed roof mixer/settler tanks for all SX facilities and their associated ancillary process

tanks. The potential emissions from these tanks as estimated by the worksheet developed by ADEQ for fixed roof tanks total 7.59 tpy which is considerably below the significance level established for VOCs in A.A.C. R18-2-101.97.

The intent of A.A.C. R18-2-730.F as applicable to the SX/EW process is to reduce evaporation of materials into the atmosphere used in the SX/EW process at various stages (processing, storage, usage, and transportation) so as to not cause air pollution. The Permittee uses covered mixer/settler and ancillary process tanks in the SX/EW process. The VOC emission levels are well below the significance level of 40 tpy. The conservative total *uncontrolled* emission estimate of sulfuric acid from the both the tankhouses is 19.66 tpy which is greater than the significance level of 7 tpy for sulfuric acid mist. However, this does not take into account the usage of foam fm-1100 by the Permittee to control the mist. Also, the sulfuric acid mist is estimated by using the maximum allowable exposure limit of $1mg/m^3$ set by OSHA and multiplying this by the air flow rate out of the building.

Usage of covered mixer settler tanks was prescribed as a control measure for the SX circuit. This was done following the site visits by the permit engineers to their respective facilities and the fact that almost all of the sources utilized covered roofs. However, the agency recognizes that some of the older tanks have uncovered weirs and clarifies that the control requirement in the permit shall not be construed as meaning that the older tanks be retrofitted.

2. SX/EW Hot Water Heater Nos. 1 through 5

Opacity:

The units are subject to the opacity standard of < 15% under the A.A.C. R18-2-724.J. The permittee is limited to burn only natural gas in the units. Natural gas is a clean burning fuel and inspections indicate that there have been no opacity problems with these units. Hence, no monitoring is required when burning natural gas.

PM:

The units are also subject to the particulate matter emissions standard in A.A.C.

R18-2-724.C.1. The permittee is limited to burn only natural gas in these units. Natural gas is a clean burning fuel and results in negligible particulate matter emissions as demonstrated by engineering calculations and tabulated under the PTE column in Table 4. Hence, no monitoring is required when burning natural gas.

SO_2:

There is no applicable standard and hence no monitoring is required.

Nox:

There is no applicable standard and hence no monitoring is required.

3. Steam Unit Nos. 1, 2, and 3

Permittee is limited to burn only natural gas in these units. There are no emission standards for opacity, particulate matter, SOx, or NOx. However, permittee is required to maintain amounts of fuel combusted each day in these units. This requirement can be complied with by maintaining a record of monthly natural gas purchase bills.

F. Non-Point Sources Monitoring

Non-point sources are subject to the 40% opacity standard and other Article 6 requirements. Periodic monitoring for opacity standard entails a bi-weekly visible emissions survey in accordance with an ADEQ - approved observation plan, by a certified Method 9 observer. If the visible emissions survey indicates that a Method 9 reading may be required, the observer shall do so, and maintain records of the results. Any observed exceedance of the opacity standard should be reported appropriately.

Article 6 regulations also contain applicable requirements for non-point source emissions. These regulations require the Permittee to employ various control methods to suppress particulate emissions. The permit lists the various methods of dust suppression that may be used. By not restricting the Permittee to use only one of the methods, the permit provides the flexibility required to facilitate employment of effective control measures. Periodic monitoring data for these applicable requirements is generated in two ways by this permit :

(i) the bi-weekly visual opacity observations conducted as monitoring for the 40% opacity standard will provide data that can be used to investigate the level of particulate emissions from non-point sources during a compliance timeframe.

(ii) the Permittee is required to maintain a record of the kind of control measures that were employed to suppress particulate emissions. This periodic monitoring requirement is specified in the "Non Point Sources" section of Attachment B of the permit. In recognition of the fact that this requirement may sometimes be highly paper-intensive and result in reduced flexibility of operations, the permit provides an alternative that the Permittee may maintain a Non-Point Source Monitoring Plan that serves as a record of the control measures that were employed by the Permittee to mitigate dust emissions from non-point sources. To satisfy its function as a monitoring tool, the Non-Point Source Monitoring Plan should contain some minimum elements of information such as :

(1) Types of control measures employed on an activity-specific basis;
(2) Frequency of application of control measures;
(3) A system for logging variations from the strategy outlined in the Non-Pont Source Monitoring Plan

The Non-Point Source Monitoring Plan has to be submitted as part of the initial application, and will undergo public and EPA review along with the rest of the permit. If the Permittee fails to submit the Non-Point Source Monitoring Plan along with the initial application, the Permittee will be require to comply with the monitoring requirements, till such time that a significant revision is processed to allow the Permittee to avail of the Monitoring Plan. As part of the significant revision procedures, the Non-Point Source Monitoring Plan will undergo public and EPA review.

It should be noted that the Non-Point Source Monitoring Plan is a monitoring tool. Additions to methods listed in the original Non-Point Source Monitoring Plan need to be notified to the Director. These notifications will have to be recorded in the Non-Point Source Monitoring Plan by the Permittee, and will also be added to the copy of the Non-Point Source Monitoring Plan that is maintained at ADEQ. There is one situation where prior approval from the Director is required. The permit lists a series of "reasonable precautions" that may be employed by the Permittee. If the Permittee desires to use a new method, prior approval for usage of this mechanism has to be obtained from the Director. Once approval is granted, the Permittee can initiate usage of the product, and record its usage in the Non-Point Source Monitoring Plan.

VIII. INSIGNIFICANT ACTIVITIES

The following activities were listed as insignificant by the Permittee in their application and have been deemed either insignificant or not insignificant by the Department:

Table 7: Insignificant Activity List

S. No.	Activity	Determination	Justification
1	Non-commercial (in-house) experimental, analytical laboratory equipment which is bench scale in nature including quality control/quality assurance laboratories supporting an electric utility facility, and research and development laboratories.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
2	Small pilot scale research and development projects.	No	These will be evaluated on a case by case basis considering size, nature and amount of emissions, and duration of project. Appropriate permits will have to be obtained as required by the regulations
3	Housekeeping activities and associated products used for cleaning purposes, including collected spilled and accumulated materials at the source, including operation of fixed vacuum cleaning systems for such purposes.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.a
4	Air conditioning, cooling, heating or ventilation equipment not designed to remove air contaminants generated by or released from associated or other equipment.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.a
5	General office activities, such as paper shredding, copying, photographic activities, and blueprinting, but not to include incineration.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
6	Restroom facilities and associated cleanup operations and stacks or vents used to prevent the escape of sewer gasses through plumbing traps.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.a
7	Smoking rooms and areas.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j

S. No.	Activity	Determination	Justification
8	Use of consumer products, including hazardous substances as that term is defined in the Federal Hazardous Substances Act (15 U.S.C. 1261, et. seq.) where the product is used at a source in the same manner as normal consumer use.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
9	Vacuum cleaning systems where the system is used exclusively for industrial or commercial use.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
10	Building maintenance and janitorial activities.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.a
11	Batch mixers with rated capacity of 5 ft^3 or less.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.d
12	Internal combustion (IC) engine driven compressors, IC engine electrical generator sets and IC engine driven water pumps used only for emergency replacement or standby service.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.h
13	Water treatment or storage for boiler feed water.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
14	Water treatment or storage or cooling systems for process water.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
15	Chemical storage associated with water and wastewater treatment where the water is treated for consumption and/or use within the permitted facility (limited to chemicals not listed in 40 CFR 68.13, chemicals listed in 40 CFR 68.13 but not stored in quantities less than threshold levels, and not subject to any applicable regulation under the Act or the Arizona Revised Rules).	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
16	The collection, transmission, liquid treatment and solids treatment process and domestic type wastewater and sewage treatment works, or treatment facilities, including septic tank systems which treat only domestic type wastewater and sewage.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
17	Firefighting activities and training conducted at the source in preparation for firefighting.	No	Subject to A.A.C. R18-2-602
18	Open burning activities.	No	Subject to A.A.C. R18-2-602

S. No.	Activity	Determination	Justification
19	Flares used to indicate danger	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
20	Chemical storage and process holding tanks(limited to chemicals not listed in 40 CFR 68.13, chemicals listed in 40 CFR 68.13 but not stored in quantities less than threshold levels, and not subject to any applicable regulation under the Act or the Arizona Revised Rules)	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
21	Storage and piping of natural gas or liquefied petroleum gas.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
22	Storage and piping of butane or propane.	No	Subject to regulations under A.A.C. R18-2-730
23	Gasoline storage tanks with capacity of 10,000 gallons or less.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.b
24	Diesel fuel storage tanks with capacity of 40,000 gallons or less.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.c
25	Petroleum product storage tanks containing lubricating oil, transformer oil, or used oil.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
26	Distribution and piping of diesel fuel, lubricating oil, used oil and transformer oil.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
27	Storage and handling of drums or other transportable containers where the containers are sealed during storage, and covered during loading and unloading (includes containers of RCRA waste and used oil).	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
28	Waste motor oil collection and recycling.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
29	Storage tanks of any size containing exclusively soaps, detergents, waxes, greases, aqueous caustic solutions, or aqueous salt solutions.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
30	Storage tanks of any size containing exclusively aqueous acid solutions.	No	Subject to A.A.C. R18-2-730
31	Landscaping and site housekeeping equipment.	No	Subject to Article 8 regulations
32	Fugitive emissions from landscaping activities.	No	Subject to Article 6 regulations

S. No.	Activity	Determination	Justification
33	Use of pesticides, fumigants, and herbicides.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
34	Groundskeeping activities and products.	No	Subject to regulations under Article 6.
35	Shoveling ore to and from belt conveyors and transfer points as part of routine maintenance programs.	No	Subject to A.A.C. R18-2-606
36	Air lance operations	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
37	Mechanized or manual cleanup and haulage operations	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
38	Concentrate reclamation	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
39	Waste concrete handling	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
40	Railroad track maintenance.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
41	Potable wellfield maintenance	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
42	Drilling and well development	No	Subject to regulations under Article 6.
43	Demolition, renovation and salvage operations.	No	Subject to regulations under Article 6 and/or 40 CFR 61, Subpart M
44	Cleanup of ditches	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
45	Stormwater drainage control	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
46	Cleanout of water collection sumps	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
47	Cleanup of railcars	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
48	Cleanup of clogged chutes	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j

S. No.	Activity	Determination	Justification
49	Manual cleanup around conveyor belts and chutes.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
50	Activities associated with the construction, repair or maintenance of roads and other paved or open areas, including operation of street sweepers, vacuum trucks, spray trucks and other vehicles related to the control of fugitive emissions of such roads or other areas.	No	Subject to A.A.C. R18-2-605
51	Unpaved public and private roadways within a stationary source site boundary.	No	Subject to A.A.C. R18-2-605
52	Road and lot paving operations at commercial and industrial facilities.	No	Subject to A.A.C. R18-2-604
53	Sanding of streets and roads to abate traffic hazards caused by ice and snow.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
54	Street and parking lot striping.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
55	Fugitive dust emissions from the operation of passenger automobile, station wagon, pickup truck or van at a stationary source.	No	Subject to A.A.C. R18-2-604
56	Small equipment operations such as bobcats and backhoes and other small earth moving activities used as part of facility cleanup and material haulage.	No	Subject to A.A.C. R18-2-604 and 804
57	Tailing dam maintenance.	No	Subject to regulations under Article 6.
58	Cafeterias, kitchens and other facilities used for preparing food or beverages primarily for consumption at the source.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
59	Equipment using water, water and soap or detergent or a suspension of abrasives in water for purposes of cleaning or finishing.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
60	Construction and disturbance of surface areas for purpose of land development.	No	Subject to A.A.C. R18-2-604

S. No.	Activity	Determination	Justification
61	Activities at a source associated with the maintenance, repair or dismantlement of an emission unit installed at the source, including preparation for maintenance, repair or dismantlement and preparation for subsequent startup, including preparation of a shutdown vessel for entry, replacement of insulation, welding and cutting, and steam purging of a vessel prior to startup.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
62	Maintenance, repair or dismantlement of buildings, utility lines, pipelines, wells, and other structures that do not constitute an emission unit.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
63	Containers, reservoirs, or tanks used exclusively in dipping operations to coat objects with oils, waxes or greases.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
64	Activities directly used in the diagnosis and treatment of disease, injury or other medical condition.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
65	Manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sawing, surface grinding or turning and associated venting hoods.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.f
66	Individual sampling points, analyzers, and process instrumentation, whose operation may result in emissions.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
67	Individual equipment that is transportable or activities within a facility established for testing units prior to sale or for purposes of research.	No	Please see comment on S. No. 2.
68	Individual flanges, valves, pump seals, pressure relief valves and other individual components that have the potential for leaks.	No	Subject to A.A.C. R18-2-730
69	Brazing, soldering or welding operations.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
70	Battery recharging areas.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
71	Aerosol can usage.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j

S. No.	Activity	Determination	Justification
72	Plastic pipe welding.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
73	Acetylene, butane and propane torches.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
74	Architectural painting and associated surface preparation for maintenance purposes at individual or commercial facilities.	No	Subject to A.A.C. R18-2-727
75	Steam vents, condenser vents and boiler blowdown	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
76	Equipment used exclusively for portable steam cleaning.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
77	Blast-cleaning equipment using a suspension of abrasive in water and any exhaust system or collector serving them exclusively.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
78	Surface impoundments such as ash ponds, cooling ponds, evaporation ponds, settling ponds and storm water ponds.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
79	Pump/motor oil resevoirs, such as gear box lubrication.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
80	Transformer vents.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
81	Lubrication system vents.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
82	Hydraulic system reservoirs.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
83	Adhesive use which is not related to production.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
84	Caulking operations that are not part of a production process.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
85	Electric motors.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
86	Cathodic protection systems.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
87	High voltage induced corona.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j

S. No.	Activity	Determination	Justification
88	Production of hot/chilled water for on-site use not related to any industrial application.	No	Subject to A.A.C. R18-2-724
89	Safety devices such as fire extinguishers.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
90	Soil gas sampling.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
91	Filter draining.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
92	General vehicle maintenance and servicing activities at the source.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
93	Station transformers.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
94	Circuit breakers.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
95	Generation unit gas vents.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
96	Storage cabinets for flammable products.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
97	Fugitive emissions from landfill operations.	No	Subject to A.A.C. R18-2-730
98	HVAC vents.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
99	Wet cyclones and the ball mill circuits operated at the concentrators.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
100	Copper and Molybdenite Floatation.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
101	Copper Concentrate Filtering.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
102	Lime milling and classifying.	Yes	It is a completely wet process. Insignificant pursuant to A.A.C. R18-2-101.54.j
103	Ore, rock, tailing and concentrate reclamation practices.	No	Subject to Article 6 requirements.

S. No.	Activity	Determination	Justification
104	Graders and Dozers.	No	Subject to Article 8 requirements.
105	General startup and shutdown of process and pollution control equipment including maintenance activities.	No	Subject to corresponding standard.
106	Malfunction of process and pollution control equipment outside the normal operation scenarios.	No	Subject to corresponding standard.
107	General research activities such as testing water mist/spray controls for dust abatement.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
108	Incineration of methane gas and bar screen residue that is retained by the solids bar screen from the primary wastewater treatment facility.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
109	Incineration of used office paper material.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
110	General vehicle refueling, sulfuric acid unloading, used oil collection/processing and used oil storage tanks.	No	Subject to A.A.C. R18-2-730
111	Geologic and hydrogeologic exploration drilling activities.	No	Subject to A.A.C. R18-2-604
112	Ammonium nitrate loading and unloading.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
113	Tire shredding.	Yes	Insignificant pursuant to A.A.C. R18-2-101.54.j
114	The Evan's Point Limestone Quarry facilities including the pan feeder, crusher, and tramway were demolished during late 1996 and early 1997. However, as special projects warrant, limestone may be mined on a small-scale basis, using front-end loaders, ten yard end dump trucks or other similar equipment.	No	Subject to A.A.C. R18-2-604.